IN THE CLAIMS:

Please cancel claim 4, and amend the claims as follows:

1. (Currently Amended) A method of deriving data representative of a condition of a pipeline comprising:

generating an interaction between a pipeline pig and an inner diameter of a pipeline by passing the pipeline pig through the pipeline;

generating data representative of an acoustical characteristic of the pipeline from the interaction between the pipeline pig and the inner diameter of the pipeline;

selecting a pig guide diameter, a seal diameter and a seal thickness to generate, from the interaction between the pipeline pig and the inner diameter of the pipeline, vibration frequency data characteristic of an internal condition of the pipeline; and

analyzing the data to determine ~~a~~ the condition of the pipeline.

2. (Original) The method of claim 1, wherein the acoustical characteristic is a vibration frequency.

3. (Original) The method of claim 1, wherein the acoustical characteristic is a vibration signal amplitude.

4. (Cancelled).

5. (Previously Presented) The method of claim 1, wherein generating the intercation comprises controlling a speed of the pipeline pig to within a suitable range to generate vibration frequency data characteristic of the internal condition of the pipeline.

6. (Original) The method of claim 1, further comprising, collecting data for use in determining a speed of travel of the pipeline pig along the pipeline.

7. (Original) The method of claim 1, further comprising, collecting data for use in determining a position of the pipeline pig along the pipeline.

8. (Original) The method of claim 1, wherein analyzing the data to determine a condition of the pipeline comprises filtering the data.

9. (Original) The method of claim 1, wherein analyzing the data to determine a condition of the pipeline comprises correlating data collected from a first sensor upon encountering a physical condition in the pipeline and data collected from a second sensor upon encountering the same physical condition in the pipeline.

10. (Currently Amended) The method of claim 1, wherein analyzing the data to determine a condition of the pipeline comprises correlating two or more of frequency data, data representative of a position of the pipeline pig ~~position~~ along the pipeline and a speed of travel of the pipeline pig along the pipeline.

11. (Original) The method of claim 1, wherein analyzing comprises processing the data to remove frequency responses resulting from the pig passing known structures in the pipeline.

12. (Previously Presented) The method of claim 11, wherein the known structures include joints and bends.

13. (Original) The method of claim 1, wherein analyzing comprises identifying one or more known patterns.

14. (Previously Presented) The method of claim 13, wherein identifying one or more known patterns comprises comparing the data to reference data to identify a signature represented by the reference data, wherein the signature represents a known condition.

15. (Currently Amended) A method of deriving data representative of a condition of a pipeline comprising:

passing a pipeline pig axially through a pipeline;

using the axial motion of the pipeline pig to generate an interaction between the pipeline pig and an inner surface of the pipeline;

sensing a frequency response generated in the pipeline pig by the interaction as the pipeline pig moves through the pipeline;

generating data representative of the frequency response; and

analyzing the data to give data representative of the condition of the pipeline.

16. (Original) The method of claim 15, wherein analyzing the data comprises analyzing a frequency range between about 75 Hz and 300 Hz.

17. (Withdrawn) A computer readable medium containing a program which, when executed, performs an operation, comprising:

receiving a sensed frequency response generated as the pig moves along a pipeline by interaction between a physical structure of the pipeline pig and at least one of a structure of the pipeline and debris formed on the pipeline; and

generating data representative of the frequency response.

18. (Withdrawn) The computer readable medium of claim 17, wherein the operation further comprises analyzing the data to determine give data representative of the condition of the pipeline.

19. (Withdrawn) The computer readable medium of claim 17, wherein the operation further comprises storing the data for subsequent retrieval after removal of the pipeline pig from the pipeline.

20. (Withdrawn) An onboard pipeline pig system, comprising:

one or more vibration sensors configured to collect a sensed frequency response generated as a pig moves along a pipeline by interaction between a physical structure of the pipeline pig and at least one of a structure of the pipeline and debris formed on the pipeline; and

a processor connected to receive information representative of the sensed frequency response.

21. (Withdrawn) The system of claim 20, wherein the processor is configured to process the information representative of the sensed frequency response and determine a physical condition of the pipeline.

22. (Withdrawn) The system of claim 20, wherein the processor is configured to process the information representative of the sensed frequency response and determine a presence of corrosion in the pipeline.

23. (Withdrawn) The system of claim 20, wherein the processor is configured to process the information representative of the sensed frequency response in a range between about 75 Hz and 300 HZ.

24. (Withdrawn) A pipeline pig, comprising:

a casing;

an onboard pipeline pig system disposed at least partially within the casing and comprising:

one or more vibration sensors configured to collect a sensed frequency response generated as the pig moves along a pipeline by interaction between a physical structure of the pipeline pig and at least one of a structure of the pipeline and debris formed on the pipeline; and

a processor connected to receive information representative of the sensed frequency response.

25. (Withdrawn) The pipeline pig of claim 24, wherein the processor is configured to process the information representative of the sensed frequency response and determine a physical condition of the pipeline.

26. (Withdrawn) The pipeline pig of claim 24, wherein the processor is configured to process the information representative of the sensed frequency response and determine a presence of corrosion in the pipeline.

27. (Withdrawn) The pipeline pig of claim 24, wherein the processor is configured to process the information representative of the sensed frequency response in a range between about 75 Hz and 300 HZ.

28. (Withdrawn) The pipeline pig of claim 24, wherein the one or more vibration sensors comprise a first vibration sensor disposed at a first location on the pig and a second vibration sensor disposed at a second location on the pig.

29. (Withdrawn) The pipeline pig of claim 24, wherein the processor is configured to correlate data collected by the first and second sensors for a same event.

30. (Withdrawn) The pipeline pig of claim 24, wherein the processor is configured to correlate data collected by the first vibration sensor upon encountering a physical condition in the pipeline and data collected from the second vibration sensor upon encountering the same physical condition in the pipeline at a later time.

31. (Previously Presented) A method for deriving data representative of a condition of a pipeline comprising:

passing a pipeline pig through the pipeline;

interfering at least a portion of the pipeline pig with an inner surface of the pipeline; and

sensing a vibration induced in the portion of the pipeline pig as the pipeline pig passes through the pipeline.

32. (Previously Presented) The method of claim 31, further comprising using the vibration to infer a condition of the pipeline.

33. (Previously Presented) The method of claim 32, wherein using the vibration to infer a condition of the pipeline comprises correlating two or more of frequency data of the vibration, data representative of the pig position along the pipeline, and a traveling speed of the pig through the pipeline.

34. (Previously Presented) The method of claim 32, wherein using the vibration to infer a condition of the pipeline comprises identifying a known condition by comprising data representative of the vibration to signature data representative of the known condition.

35. (Previously Presented) The method of claim 31, wherein sensing the vibration comprises sensing a vibration frequency.

36. (Previously Presented) The method of claim 31, wherein sensing the vibration comprises sensing a vibration signal amplitude.

37. (Previously Presented) The method of claim 31, wherein passing the pipeline pig comprises controlling a speed of the pipeline pig to within a suitable range to induced the vibration.